LETTER TO THE EDITOR

Acute Kidney Injury in Acute Stroke

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Respected Madam, Acute kidney injury (AKI) in acute stroke setting has recently gained importance as a relatively common complication and its associated adverse clinical outcomes in this population. Early diagnosis of AKI in its potentially reversible stages is of utmost importance, especially in a resource-limited setting like ours, and may improve outcomes in these patients. The lack of data on the burden of AKI and its risk factors in patients with acute stroke in Pakistan represents an important knowledge gap. We aimed to fill this gap by studying the frequency of AKI in patients with acute stroke and delineating associated risk factors. We performed a cross-sectional study of 215 acute stroke patients admitted to the stroke unit at our institution between December 2019 and June 2020. The mean age was 60±14 years. One hundred and thirty-one patients (60.9%) were males. Hypertension and diabetes were found in 164 (76.3%) and 92(42.8%) patients, respectively. Acute ischaemic stroke (AIS) was seen in 130 patients (60.5%), while 85(39.5%) had intracranial haemorrhage (ICH). Acute kidney injury was found in 73 patients (34%) of which 56(26 %) seen in patients <50 years age group vs 85(39.5%) and 74(34.4%) in 50-65 years and >65 years, respectively. Males were more likely to experience AKI than females (72.6% vs 27.4%); odds ratio (OR)=2.174 (95% CI: 1.18–4.007) p=0.012. Increasing severity of stroke was associated with an increased risk of AKI (p<0.001). However, no significant factors affecting the severity of AKI were found on subgroup analysis by age, gender, comorbidities, type and severity of stroke or admission blood pressure. Patients with ICH were more likely to suffer from AKI than to those with AIS (OR 1.429; 95% CI: 1.033 – 1.977; p=0.035). In our study, the frequency of A|KI in acute stroke was much higher than previously reported from other parts of the world.[1-3] This high burden of AKI has major implications in a resource-limited setting, given the demand for integrated long-term care required by stroke patients with renal dysfunction. Moreover, we observed male gender susceptibility to AKI, a finding reported by other studies from South Asia[3,4] but not from the western world. This might reflect gender biased access to health care in the subcontinent but multivariable analysis with larger database is needed to verify the independent link between gender and risk for AKI, if any. We speculate that the alarmingly high burden of AKI may reflect delayed and more severe presentation of stroke at a tertiary care centre. Our findings highlight the urgent need to conduct prospective multicenter studies with bigger sample size to delineate potential risk factors to help better risk stratification, early detection and effective preventive strategies and predictive models.

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